

# PATENT SPECIFICATION

DRAWINGS ATTACHED

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## Improvements in or relating to lubricant containers

### COMPLETE SPECIFICATION

We, WANNER A.G., of Horgen, Zurich, Switzerland, a Swiss Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:

This invention relates to lubricant containers for lever-action and manual force feed oilers and grease guns, referred to hereinafter generally as grease guns, of the kind incorporating a spring-loaded piston slidable in the container.

When filling such lubricant containers, it has been difficult to prevent air from becoming trapped in the lubricant, because at the beginning of the filling operation there is an air space between the piston and the mouth of the container. The quantity of lubricant with which the container can be charged is accordingly reduced, in addition to which the presence of air in the lubricant results in unsatisfactory use of the gun. It is an object of the invention to avoid this disadvantage.

According to the invention there is provided a lubricant container for grease guns of the kind referred to, comprising a support which is normally pressed by the spring into contact with the piston, and a pulling member connected to said support, said pulling member being actuable to draw the support away from the piston against the spring action thereby to relieve the spring pressure on the piston.

The accompanying drawing shows by way of example two embodiments of the invention. In said drawing

Figure 1 shows a sectional view of a lubricant container with spring-loaded piston;

Figure 2 shows a sectional view of the lubricant container with spring compressed for the purpose of filling the container with grease;

Figure 3 is an end view of the piston seen

from the lubricant side;

Figure 4 is an end view of Figure 2 seen from above; and

Figure 5 is a fragmentary sectional view of the other embodiment of lubricant container.

Referring to Figures 1 to 4, a cylindrical lubricant container 1 is provided at that end by which said container which is attachable to the grease gun (not shown) with a filling opening 2, and at the other end with a cover 3 having a circular opening therein. Axially slidable within the lubricant container is a rodless piston 4 which has a packing sleeve 7 fixed between two guide discs 5,6. The guide plate 6 located on the lubricant side of the piston has peripheral recesses 8 enabling the pressure of the lubricant to act upon the packing sleeve. Numeral 9 designates the compression spring intended for acting upon the piston, which spring at one end bears on the cover 3 and at the other end is seated in a support 10 formed as a cap which is slidable within the container. The cap 10 may be raised from piston 4 against the action of the spring 9 by means of a pulling member 11 secured centrally to cap 10. Said pulling member consists of a chain which is attached at one end to the cap 10 and at the other end to a draw handle 12 so that by pulling handle 12 the chain is drawn out of the container. The shaft 12' of the draw handle carries a cross pin 13 which serves to attach the chain to the draw handle and at the same time as a lock for the draw handle by engagement with the inside of the cover 3. The opening in cover 3 is formed with diametrically arranged extensions which provide a slot 14 permitting the pin 13 to pass therethrough when the draw handle has been turned to the appropriate position. A spring 15, fitted with a pressure plate 16, is located within the handle, and in the position of the parts shown in Figure 1 the plate 16 is seated on

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the neck of the opening in cover 3 and the draw handle is pressed outwardly to the extent determined by the engagement of cross pin 13 with the inside of the cover.

5 The chain 11 is of such length that it will remain slack in any position of the piston.

For filling the lubricant container, and after detaching it from the grease gun, the draw handle is unlocked and pulled  
10 upwardly to withdraw cap 10 from engagement with the piston, as shown in Figure 2. In this retracted position, locking of the support 10 with the spring compressed may be effected by engaging one of the chain  
15 links within one of the extensions forming slot 14. The piston 4 is still in its forward position in the container 1. Now, by pushing the container into the grease, filling of the container can be accomplished without  
20 air becoming trapped in the grease, and the unloaded piston 4 will be forced back by the lubricant entering the container. After filling the container, it is reconnected to the grease gun: the chain is released and allowed  
25 to slide back into the space containing the spring 9, and the draw handle 12 is locked by cross pin 13 to the cover 3 in the described manner. The piston is then under the pressure of spring 9 at the support 10,  
30 and the grease gun is ready for operation.

In the embodiment shown in Figure 5, numeral 1 again designates the lubricant container, and 5 and 6 the guide discs of the piston. In contradistinction to the afore-  
35 described embodiment, the piston packing sleeve 7 is replaced an O-ring 7' interposed between the disc 5 and an auxiliary disc 5a.

#### WHAT WE CLAIM IS:

1. A lubricant container for grease guns of the kind referred to, comprising a support 40 which is normally pressed by the spring into contact with the piston, and a pulling member connected to said support, said pulling member being actuatable to draw the support  
45 away from the piston against the spring action thereby to relieve the spring pressure on the piston.

2. Lubricant container as claimed in claim 1, wherein the piston comprises guide discs between which a packing sleeve is 50 secured, the disc facing the lubricant being formed with peripheral recesses through which the said sleeve is subjected to the pressure of the lubricant.

3. Modification of the lubricant container 55 claimed in claim 2, wherein the piston comprises an O-ring interposed between the guide disc remote from the lubricant and an intermediate disc.

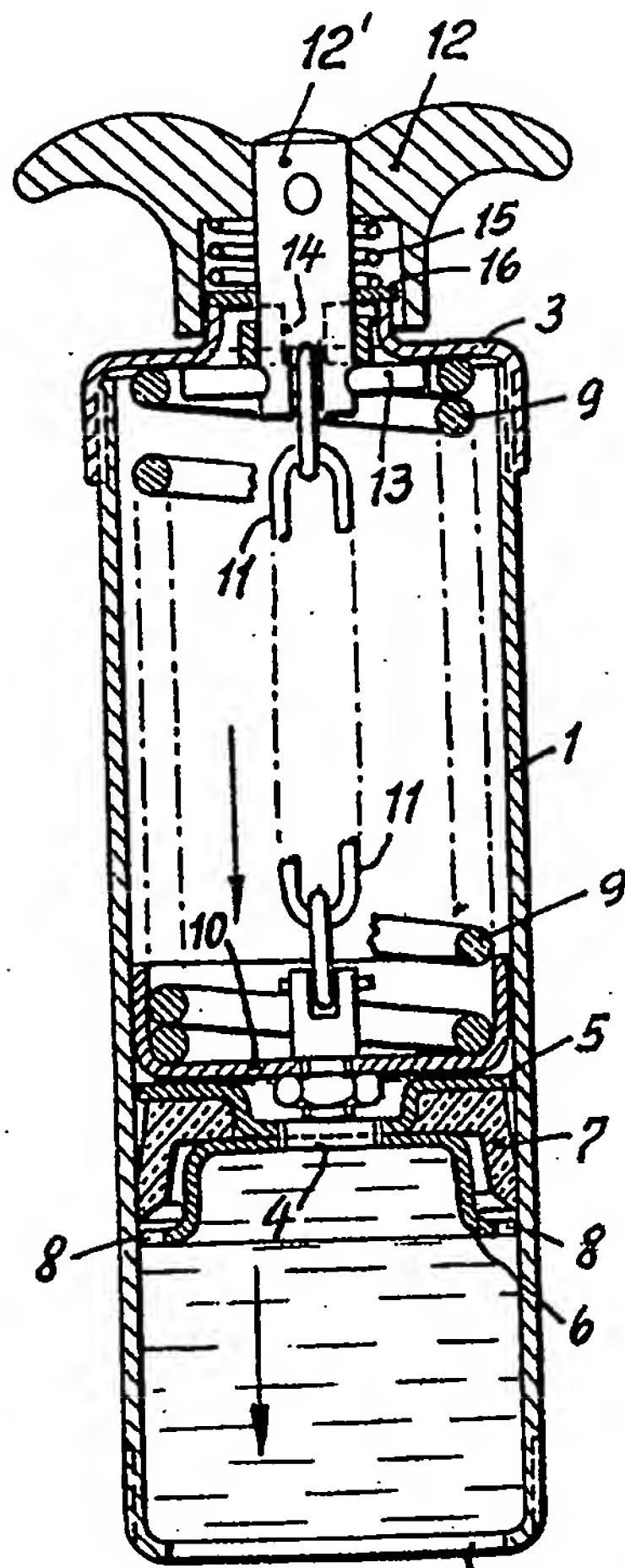
4. Lubricant container as claimed in 60 any one of claims 1 to 3, wherein the support comprises a cap within which one end of the spring is seated, the pulling member being secured to the cap centrally thereof.

5. The lubricant container for grease 65 guns substantially as hereinbefore described with reference to Figures 1 to 4 or Figure 5 of the accompanying drawings.

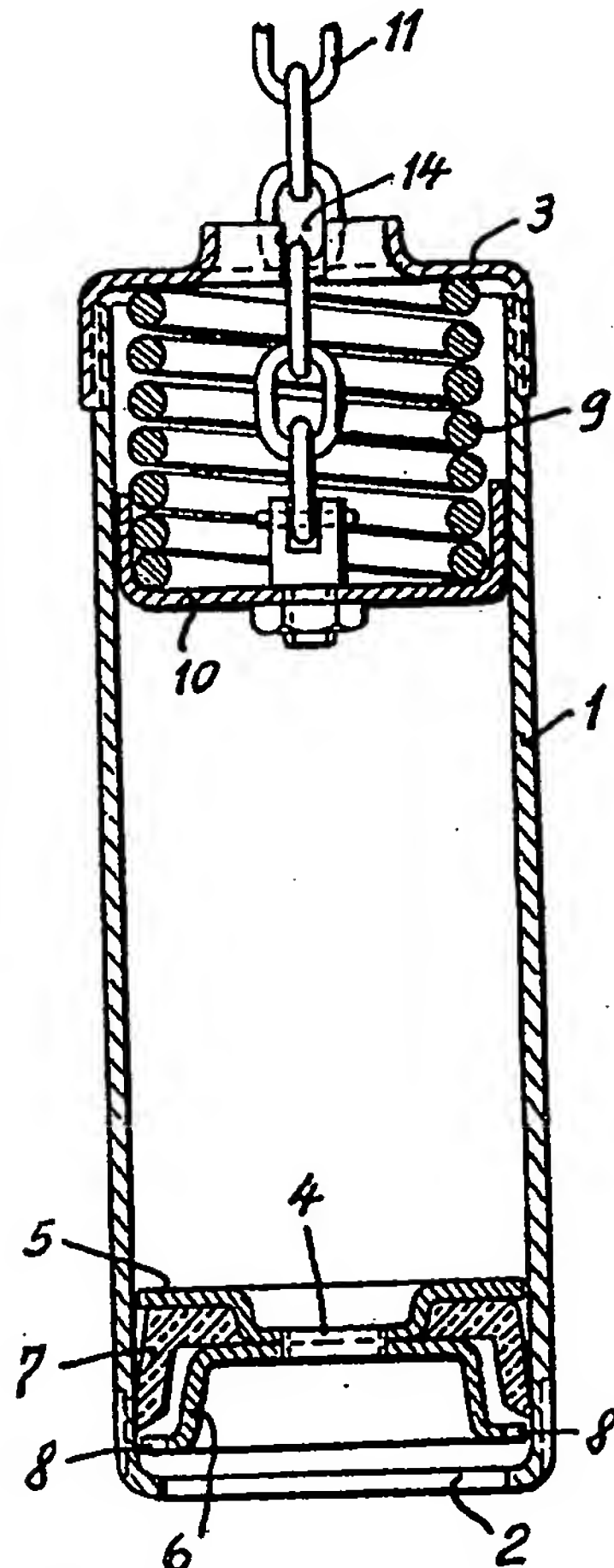
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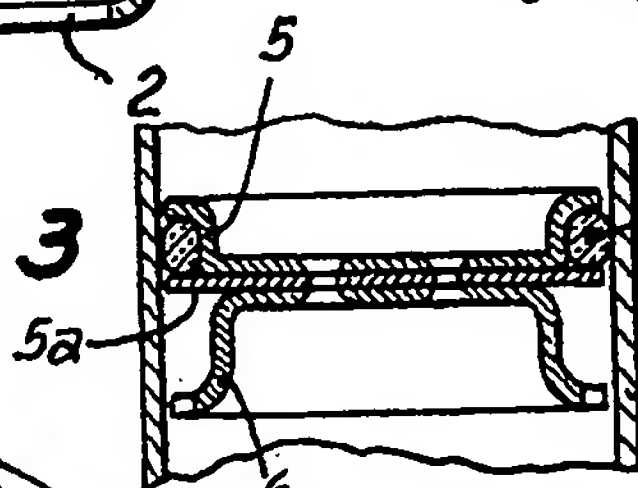
*Fig. 1*



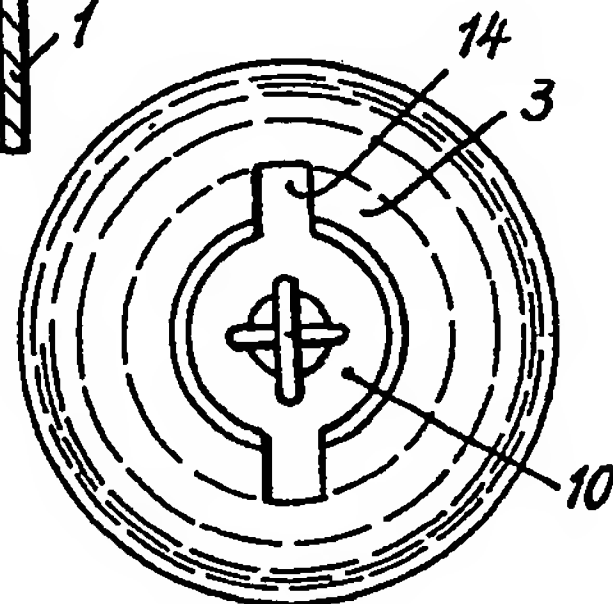
*Fig. 2*



*Fig. 3*



*Fig. 4*



*Fig. 5*

